

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

In the Matter of)	
)	
Promoting Interoperability in the 700 MHz Commercial Spectrum)	WT Docket No. 12-69
)	
)	
Interoperability of Mobile User Equipment Across Paired Commercial Spectrum Blocks in the 700 MHz Band)	RM-11592

**REPLY COMMENTS OF CONSUMERS UNION, FREE PRESS,
NEW AMERICA FOUNDATION AND PUBLIC KNOWLEDGE**

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SUMMARY

Consumers Union, Free Press, New America Foundation, and Public Knowledge (“Public Interest Commenters”) respectfully submit these Reply Comments in response to the Federal Communications Commission’s 700 MHz Band Interoperability Notice of Proposed Rulemaking released on March 21, 2012.

In these Reply Comments, we review the systematic disadvantages currently faced by Lower 700 MHz A Block licensees, and the real and serious injuries a failure to mandate interoperability has produced and will continue to produce. Additionally, we respond to a number of flawed arguments made by incumbent wireless carriers and device manufacturers that overstate technical impediments, understate their own manipulation of the 3GPP Band Class creation process, and wrongly deny the Commission’s authority to mandate interoperability. We reiterate the pressing need for Commission intervention to ensure a vibrant, competitive wireless marketplace in the Lower 700 MHz Band—a marketplace that, because of adverse industry conditions and anticompetitive practices by incumbent carriers, *only* an FCC mandate can create.

Comments of A Block license holders dramatically illustrate what is at stake in this proceeding. Because of AT&T’s bad-faith conduct in the 3GPP standard-setting process, which created the artificial Band Class 12/Band Class 17 barrier, these licensees operate in perpetual uncertainty, unable to make good their investments by building out their networks. Despite AT&T’s reality-denying assertions, smaller, would-be competitive carriers lack leverage with device manufacturers and can only obtain LTE-compatible devices with great hardship and delay, if at all. Without interoperability, it is impossible for A Block licensees simultaneously to make the roaming agreements that are vital to competitive service and build out their own spectrum, forcing them to choose between becoming *de facto* subsidiaries or going out of

business. Smaller, regional, “greenfield” carriers providing coverage to underserved rural communities are especially hard-hit. Mandating Lower 700 MHz Band interoperability—which, at time of Auction, A Block licensees and the Commission both assumed would be the natural state of the spectrum—would alleviate this profoundly anticompetitive situation.

Arguments against interoperability raised by incumbent carriers and their device-manufacturer allies fail to make their case. Technical impediments to interoperability are overstated: real-world technical analyses demonstrate that interference from Channel 51 and E Block transmissions will be rare, and the effects negligible for Lower B and C Block holders. Upgrades to existing networks and devices are minimal and can be accomplished at substantially less cost than opponents estimate. Furthermore, arguments that the industry will be destabilized by Commission interference with the 3GPP standard-setting process are undercut by AT&T’s *own* manipulation of the process to create the current band-class environment.

Finally, AT&T and other opponents’ legal arguments are baseless. Section 316 of the Communications Act confers broad power to modify the terms of all existing licenses to further the public interest, and opponents cannot and do not cite other provisions that countermand this authority. Their arguments against other provisions cited by the Commission stand on shaky legal ground, citing dubious precedent. And their argument that a Commission mandate would retroactively interfere with bidders’ expectations backfires: it was the reasonable interoperability expectations of A Block bidders that were frustrated by AT&T’s interference in the 3GPP process. Mandating interoperability would counteract this bad-faith interference and restore the genuine expectations of Auction 73 bidders.

Public Interest Commenters support full 700 MHz Band interoperability because it will mean more competition, more choice, and more consumer convenience in a wireless marketplace

that currently has very little of these things. Accordingly, in this proceeding we strongly urge the Commission to intervene swiftly to ensure interoperability in the Lower 700 MHz Band, so as to promote meaningful competition in Lower 700 MHz Band LTE services to the ultimate benefit of consumers.

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**REPLY COMMENTS OF CONSUMERS UNION, FREE PRESS,
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I. INTRODUCTION

Consumers Union, Free Press, New America Foundation, and Public Knowledge (“Public Interest Commenters”) respectfully submit these Reply Comments in response to initial comments on the Federal Communications Commission’s Notice of Proposed Rulemaking (“NPRM”) in the above referenced dockets, released on March 21, 2012.

Public Interest Commenters submitted initial comments in this proceeding summarizing the clear consumer benefits of interoperability in the 700 MHz Band, such as facilitating increased competition from smaller carriers, encouraging wider roaming capabilities within LTE networks, and strengthening the public safety network. We concluded that the Commission cannot wait for a hypothetical industry solution to emerge, but must act swiftly to mandate interoperability in order to best protect and promote the public interest.

In these Reply Comments, we review the systematic disadvantages currently faced by Lower 700 MHz A Block licensees, and the real and serious injuries that a failure to mandate interoperability will produce. Additionally, we respond to a number of arguments made by

incumbent wireless carriers and device manufacturers that overstate technical impediments, understate those commenters' roles in manipulation of the 3GPP Band Class creation process, and wrongly deny the Commission's authority to mandate interoperability. We also reiterate the pressing need for Commission action to ensure the emergence of a vibrant, competitive wireless marketplace; to ensure that consumers can make meaningful choices among carriers and devices without incurring unnecessary charges; and to further the overarching goal of full 700 MHz interoperability.

II. LACK OF LOWER 700 MHZ INTEROPERABILITY SYSTEMATICALLY DISADVANTAGES A BLOCK LICENSEES, THEIR CUSTOMERS, AND ALL CONSUMERS

The Comments of A Block license holders dramatically illustrate what is at stake in this proceeding. Under the current balkanized Band-Class system, A Block licensees and their subscribers are structurally disadvantaged, unable to enjoy competitive LTE services or coverage because of artificial Band-Class barriers. These licensees operate in uncertainty, unable to make good their investments by building out their networks. Moreover, because they lack leverage with device manufacturers, they can only obtain LTE-compatible devices with great hardship and delay, if at all. Smaller, regional, "greenfield" carriers providing coverage to underserved rural communities are especially hard-hit. Their comments reinforce that the Commission's swift intervention is essential to an optimally functioning market because the structure of the wireless market will not provide a solution in time—if ever. Leaving the solution to the industry potentially dooms many small carriers and discourages would-be carriers in the short term, ultimately suppressing competition and diminishing consumer choice in the long term.

A. Without the Assurance of Interoperability, A Block Licensees Face Stranded Investment, Uncertainty, and Hesitancy to Build Out Their Networks

Smaller carriers acquired their Lower 700 MHz A Block licenses “in the good faith belief that the 700 MHz band would conform to the traditional model of interoperability,”¹ but could not anticipate the bad faith conduct of AT&T in the 3GPP standard-setting process. At AT&T’s insistence, an artificial Band Class 12/Band Class 17 barrier was imposed in the Lower 700 MHz Band, from the very beginning giving these smaller and potentially competitive carriers long odds for success or survival. The uphill battle on a field created by powerful incumbent carriers has already impaired and will almost certainly continue to impair smaller carriers’ ability and willingness to invest in providing wireless services.

Comments of smaller carriers in this proceeding demonstrate the problems the lack of expected interoperability has created. “Block A licensees today are either waiting to embark on the path to LTE...or have deployed LTE service, but without any mobile devices to access that LTE service.”² Stranded or uncertain investments “are especially unacceptable and problematic in this case because they have directly impacted licensees with the fewest resources,” creating costs for would-be competitors that serve only to strengthen larger carriers’ market positions.³ Facing a June 2013 interim build-out deadline, many smaller, disproportionately rural carriers have been forced to deploy fixed 700 MHz networks.⁴ Disadvantages and delays inevitably accelerate “[t]he gradual churning of customers from Block A licensees to national service

¹ Comments of U.S. Cellular Corp. at 13 (quotation marks omitted).

² Comments of Rural Telecom. Grp. at 8.

³ See Comments of Vulcan Wireless LLC at 23-24.

⁴ See Comments of Blooston Rural Carriers at 6.

providers like AT&T and Verizon...ultimately lead[ing] to a situation where remaining an independent LTE service is financially impractical.”⁵

B. Despite Claims to the Contrary, A Block Licensees Are Unable to Obtain or Offer Band Class 12 LTE Devices Without Extreme Difficulty and Delay

In its comments, AT&T claims that A Block licensees are “obviously able to obtain a variety of Band 12 devices to offer in conjunction with the rollout of their networks” and that device manufacturers “ha[ve] every incentive to incur [] minimal [Band 12 variant] costs to gain the potentially substantial revenues from selling Band 12 devices to the growing number of LTE subscribers that will be served by A Block licensees.”⁶ These assertions are divorced from reality. First, only one A Block licensee—U.S. Cellular—currently offers a total of only three Band 12 LTE devices, and was able to do so only after protracted and difficult negotiations.⁷ Second, AT&T *assumes* that the growth of Band 12 networks will spur device manufacturers to invest in developing Band 12 phones—but Band 12 networks cannot launch or grow without offering competitive LTE-capable devices. This is, in fact, a Catch-22 that keeps most smaller carriers perpetually out of competition.

U.S. Cellular is to date the only A Block licensee to offer LTE-capable devices on a 700 MHz wireless network. Far from the simple, speedy negotiation AT&T appears to imagine, U.S. Cellular faced difficulty and delay in securing “at least *one* device” to launch by its target date.⁸ From the initial nine manufacturers it approached, four expressed interest while five withdrew immediately because of technical or financial challenges.⁹ From there, one by one, the

⁵ Comments of Rural Telecom. Grp. at 8.

⁶ Comments of AT&T Services Inc. at 11-12.

⁷ See Comments of U.S. Cellular, Declaration of James R. Anetsberger, ¶¶ 4-11.

⁸ *Id.* ¶ 9 (emphasis in original).

⁹ *Id.* ¶ 5.

manufacturers dropped out of negotiations because they could not justify investing in Band 12 technology; ultimately, only Samsung remained willing to do business.¹⁰

Overall, the first smartphone U.S. Cellular launched was “11 months behind comparable product of a large wireless carrier, and other products launched to date have a minimum of 11 months delay relative to comparable product at large competitors.”¹¹ U.S. Cellular continues to face high costs and delays and because of this foresees no substantial additions to its device offerings.¹² Furthermore, the current limitations of an artificially segregated Band 12 make this smartphone an inferior device, “not a true competitor to the 4G devices offered by larger carriers like AT&T and Verizon.”¹³ U.S. Cellular’s experience, which offers the only example to date of a Band 12 device on the LTE market, stands in stark contrast to AT&T’s rosy picture of efficient and economical Band 12 device development.

These problems plague U.S. Cellular even though it is the country’s sixth largest wireless carrier, with considerable leverage, “alternative resources, vendor relationships, and market presence” in relative terms.¹⁴ Other A Block licensees who do not enjoy the same level of resources are unable to obtain and offer devices at all. This is the fallacy of AT&T’s argument, and remains a major obstacle to A Block licensee LTE deployment: without being able to guarantee a subscriber base and growth potential, smaller licensees cannot persuade manufacturers to partner with them in producing Band 12 devices. But without a diverse array of LTE devices—or for that matter even *one* functioning LTE device—these small, rural,

¹⁰ *Id.* ¶ 8.

¹¹ *Id.* ¶ 12.

¹² *Id.* ¶ 13.

¹³ Comments of Vulcan Wireless LLC at 20.

¹⁴ *Id.* at 21.

greenfield licensees cannot hope to attract subscribers enough to justify building out an LTE network in the first place.¹⁵

Even those small carriers who hypothetically *may* partner with manufacturers in the current environment must either pass higher production costs on to their customers, making them less competitive and more likely to lose customers to larger incumbent carriers; or must assume the costs themselves, putting them at risk of unprofitability and eventual withdrawal from the market.¹⁶ Higher device costs passed along in the form of higher prices will disproportionately affect low-income consumers, who rely on pre-paid plans; higher device costs borne by providers will disproportionately affect pre-paid providers, as well as smaller and rural carriers, who can least afford them.¹⁷ Smaller A Block licensees are thus doubly disadvantaged when it comes to offering devices: either they cannot offer them at all, or they can offer them but risk going out of business. In either case the result is decreased competition and diminished consumer choice.

C Spire, an A Block licensee, is an illustrative example. It now offers an LTE-capable device—but not one operable in Band 12. Its LTE network roll-out was significantly delayed and will now be carried by its AWS and PCS spectrum precisely because of C Spire’s inability to find a Band 12 device compatible with its 700 MHz holdings, which are now “fallow while it waits for the Band 12 ecosystem to mature.”¹⁸ Most other A Block licensees, including rural and greenfield operators, do not have that option. Only swift intervention by the Commission would

¹⁵ See, e.g., Comments of MetroPCS Communications, Inc. at 9; Comments of NTCA at 6; Comments of Vulcan Wireless LLC at 22.

¹⁶ See Comments of Rural Telecom. Grp., Inc. at 7; Comments of King Street Wireless, LLP at 11.

¹⁷ See Comments of Cricket Communications, Inc. at 8.

¹⁸ Maisie Ramsay, *C Spire Wireless Lands LTE-Capable Samsung Galaxy S III*, WIRELESS WEEK, June 12, 2012, <http://www.wirelessweek.com/News/2012/06/c-spire-lands-lte-capable-samsung-galaxy-s-iii>.

ensure that these operators can obtain and offer suitable devices, giving them the opportunity to compete in the wireless market and to provide meaningful choices to consumers.

C. A Block Licensees Cannot Realistically Offer Roaming Without Interoperability, Which Disadvantages Them, Their Customers and All Wireless Consumers

As Public Interest Commenters noted in our initial comments, without an interoperability mandate, “balkanization of the band would allow carriers like AT&T and Verizon Wireless to refuse to negotiate roaming agreements based on technical compatibility,” saddling the wireless market with “limitations on interoperability that are entirely self-inflicted.”¹⁹ Comments of A Block licensees and others show the potential extent of this self-inflicted harm, and underscore the long-term consequences of failing to ensure interoperability in the Lower 700 MHz Band.

Roaming is integral to a carrier’s success, and the artificial barriers in the Lower 700 MHz Band severely constrain A Block licensees from ensuring adequate roaming services for their subscribers. Even if they were to cheaply and easily obtain Band Class 12 devices—a big “if”—smaller A Block licensees would be faced with a Hobson’s choice when negotiating roaming agreements. Because of economic and technical limitations, carriers must currently choose *one* from Band Class 12, 17, or 13 chips.²⁰ Consequently, A Block licensees are forced to choose between obtaining 4G LTE roaming from Verizon or AT&T *or* “building on their own spectrum and having substantially curtailed roaming prospects,”²¹ but because of the lack of interoperability simply cannot very well do both. Thus, they either become captive roaming partners of Verizon or AT&T, or invest in their own high-risk build-outs that can only provide

¹⁹ Comments of Consumers Union, Public Knowledge, New America Foundation and Free Press at 10.

²⁰ See Comments of MetroPCS Communications, Inc. at 10.

²¹ See *id.*

limited service.²² Smaller carriers cannot become viable competitors when forced to build out *other carriers'* networks, but neither can they offer competitive services without the extensive coverage that roaming agreements (and other leasing arrangements offered by Verizon, for example) might allow. This is a profoundly anticompetitive situation: “the market is broken and must be fixed.”²³

In its comments, AT&T points to already-existing “solutions” for smaller carriers’ roaming predicament: they may attempt to develop superior devices, incorporate into their devices port frequencies that permit roaming onto other bands, or wait for additional technological or 3GPP-standard developments.²⁴ These are inadequate and self-serving suggestions. AT&T may enjoy the luxury of leverage, but most A Block licensees simply do not have the same strength and ability to negotiate with device manufacturers for even basic LTE Band Class 12 devices, let alone devices with unique configurations of ports. Moreover, this solution is suboptimal because it would limit smaller carriers’ options, placing them at a severe competitive disadvantage: instead of a unified-class port allowing Band 12 *and* Band 17 operation *in addition* to another port allowing expanded roaming or services, they would have to fill that otherwise free port just to meet basic roaming needs within the Lower 700 MHz Band.²⁵ Obliging Band 12 carriers to make roaming agreements with other providers in other bands is, however, quite convenient for AT&T: that would permit it to preserve its proprietary Band Class 17 indefinitely.

Inability to roam is not just a hypothetical harm: the one carrier currently offering Band 12 LTE service, U.S. Cellular, faces severe limitations on coverage imposed by the lack of

²² *Id.* at 11.

²³ *Id.*

²⁴ Comments of AT&T Services Inc. at 17-18.

²⁵ *See* Comments of T-Mobile USA, Inc. at 9-10.

interoperability, and critical reviews of its line of LTE devices reflect those limitations.²⁶ Smaller carriers do not have time to wait for theoretical industry or 3GPP solutions to emerge, which AT&T concedes will take “years of development, testing and deployment.”²⁷ Already, many smaller carriers face stranded investments and fallow spectrum, an unsustainable short- or long-term business position. Only a Commission mandate of Lower 700 MHz Band interoperability will bring larger carriers’ leverage to bear on device manufacturers, creating an economy of scale for Band Class 12 devices and enabling smaller carriers to offer nationwide coverage.

III. INCUMBENT CARRIERS AND MANUFACTURERS HAVE NOT MADE THE TECHNICAL OR LEGAL CASE AGAINST INTEROPERABILITY

In their Comments, incumbent wireless carriers and device manufacturers advance a number of self-serving arguments that do not hold up under scrutiny. Incumbents suggest—without robust evidence or testing—that merging Band Classes 12 and 17 will degrade the quality of their own services. They protest—without firm ground—that an interoperability mandate will cause enormous inconvenience and delay. They also assert—without persuasive argument—that the Commission lacks legal authority to mandate interoperability in the first place. However, this Commission must weigh any temporary inconvenience to incumbents against the greater good of a more efficient, more competitive wireless marketplace—and because for many smaller carriers time is running out, this is a marketplace that only an interoperability mandate can create.

A. Technical Impediments to Interoperability Are Overstated, and Those that Exist Apply Primarily to A Block Licensees

1. Effects of Channel 51 Reverse Intermodulation Interference and Lower E Block

²⁶ See Comments of Vulcan Wireless LLC at 20.

²⁷ Comments of AT&T Services Inc. at 18.

Direct Channel Interference Are Minimal, Rare, Primarily Affect A Block Licensees,
and Can Be Mitigated by Commission Action

AT&T, Motorola, Qualcomm, and Research in Motion all assert in their comments that technical impediments to interoperability are substantial and would degrade wireless service. AT&T relies upon “fundamental principles of engineering and physics,”²⁸ while Qualcomm apparently performed its own analyses and laboratory tests.²⁹ The most extensive experimental study entered into the record of this proceeding to date, however, “demonstrate[s] that none of the justifications that have been offered to support the creation of Band Class 17 are valid.”³⁰

Reverse intermodulation interference from Channel 51 appears to be exceedingly rare, and even if present would have negligible effect on LTE devices.³¹ Such interference would likely only arise “in the unlikely scenario of an extremely strong DTV signal and an LTE device receiving at its weakest level,” and would be “too weak to cause any degradation to the performance of B or C Block devices.”³² Qualcomm may predict “potentially severe degradation to C Block licensees’ service” in areas surrounding Channel 51 transmitters, *estimating* extremely high Channel 51 transmission strengths in major metropolitan areas.³³ By contrast, Vulcan Wireless *et al.*’s technical study extensively *measured* Channel 51 transmission strength in the field, finding no interference-grade signals; and additional measurement data from Nokia reinforce their findings.³⁴ Even AT&T’s own analysis found that any potential reverse intermodulation would harm primarily Band Class 12 devices,³⁵ and potential interference to

²⁸ *Id.* at 28.

²⁹ *See* Comments of Qualcomm Inc. at 6-57.

³⁰ Comments of Vulcan Wireless LLC at 11.

³¹ *Id.* at 14.

³² *Id.*

³³ Comments of Qualcomm Inc., at 38-54.

³⁴ Comments of Vulcan Wireless LLC, Test Report Attachment, at 52-53.

³⁵ Comments of AT&T Services Inc., Reed-Tripathi Report Attachment, at 12-13.

other devices would arise only in situations that Vulcan *et al.*'s technical report demonstrates are *extremely* unlikely to occur.³⁶

Interference from adjacent E Block transmissions would likewise be rare and primarily of concern to A Block licensees. While Qualcomm and AT&T suggest that severe blocking and intermodulation interference from E Block are “not at all unlikely” in the B and C Block for Band 12 devices,³⁷ results of extensive field and lab testing provided by Vulcan Wireless *et al.* demonstrate that these concerns are overstated. First, although Qualcomm provides estimated locations in several cities where severe E Block interference might degrade B and C Block LTE service,³⁸ the Vulcan Test Report directly measured typical E Block transmissions in a major, representative metropolitan area and found no potential interference to B and C Block devices that would drop their performance below 3GPP standards.³⁹ Thus, while possible “reduced A Block [performance] may be cause for concern for A Block licensees, [it] is not an issue which would impact Lower 700 MHz interoperability.”⁴⁰

AT&T argues that the relevant question is not whether “interference will cause a device to not work at all or fall below minimum 3GPP standards...[but] the relative *performance* of Band 17 and Band 12 devices in the presence of Channel 51 and E Block interference.”⁴¹ But even in the presence of interference—again, likely a rare occurrence—“[d]evice performance in the Lower B and C Blocks is considerably better than the Lower A Block performance.”⁴² AT&T also concedes that any interference problems interoperability might create can be

³⁶ Comments of Vulcan Wireless LLC at 14.

³⁷ Comments of Qualcomm Inc. at 6-28; Comments of AT&T Services Inc., Reed-Tripathi Report Attachment, at 13-14.

³⁸ Comments of Qualcomm Inc. at 13-28.

³⁹ Comments of Vulcan Wireless LLC, Test Report Attachment, at 32-41.

⁴⁰ *Id.* at 25.

⁴¹ Comments of AT&T Services Inc. at 36.

⁴² Comments of Vulcan Wireless LLC, Test Report Attachment, at 25.

solved,⁴³ and its high cost estimates do not take into account all of the mitigation measures (discussed below) that are available to the Commission. Moreover, because all of AT&T's hypothetical interference concerns would affect A Block licensees predominantly, AT&T would still retain a competitive advantage by virtue of its insulated B and C Block spectrum.

Interference can also be mitigated by Commission initiative. Numerous commenters (including AT&T) support the steps already taken to freeze Channel 51 licenses and incentivize migration from that channel, and they encourage the Commission to accelerate repurposing of the band for wireless use.⁴⁴ This would permanently eliminate the threat of reverse intermodulation interference centered in the A Block. Commenters also suggest mitigation strategies for E Block transmissions, including mandating the same lower-power operation for current E Block license-holder Dish Network as was imposed on AT&T's E Block holdings.⁴⁵ The Commission thus can proactively ease the transition to interoperability; but given the minimal risks to B and C Block licensees posed by interference, the public interest would be better served by Lower 700 MHz Band interoperability regardless.

2. Opponents of Interoperability Exaggerate the Delays and Inconvenience Interoperability Would Impose on Incumbents and Manufacturers

Comments from opponents of Commission intervention suppose a litany of additional harms and delays that would result from interoperability requirements. AT&T argues that an interoperability mandate might “strand[] millions of current and future Band 17 customers,” could take up to three years to implement, and would require testing and assessment of legacy

⁴³ Comments of AT&T Services Inc. at 32-34.

⁴⁴ See Comments of AT&T Services Inc. at 44-48; Comments of MetroPCS Communications, Inc. at 12; Comments of NTCA at 8; Comments of T-Mobile USA, Inc. at 15-16.

⁴⁵ See Comments of AT&T Services Inc. at 49-50; Comments of NTCA at 9; Comments of T-Mobile USA, Inc. at 17-19; Comments of U.S. Cellular Corp. at 19-20.

Band 17 devices to ensure compatibility.⁴⁶ Qualcomm and Research in Motion similarly argue that a mandate would interfere with their product cycles, possibly imposing delays of several years. Like the interference concerns discussed above, these risks are all hypothetical and little-supported by evidence. Moreover, the Commission’s interoperability proposals include safeguards and measures to ease the transition, mitigating any and all costs to incumbent carriers and manufacturers.

First, AT&T attacks a straw man: few commenters support an immediate mandate, and none envisage AT&T’s “flash cut” scenario, thus rendering its concern for stranding customers and devices a dire but unrealistic fear. Rather, most commenters support a phased transition using a “substitution” method as proposed by the NPRM, including grandfathering of existing Band Class 17 devices,⁴⁷ or they advocate a firm deadline for industry negotiations to achieve interoperability.⁴⁸ Second, any and all delays would be on the device end, not the infrastructural end. For example, as the Commission notes⁴⁹ and commenters confirm,⁵⁰ current Band 17 base station filtering standards are no obstacle to interoperability, and the required upgrades would impose no hardware costs.⁵¹

Moreover, upgrading existing *devices* to Band 12 compatibility would not impose undue delay: legacy devices currently used by consumers could receive a software upgrade remotely.⁵²

⁴⁶ Comments of AT&T Services Inc. at 24-26.

⁴⁷ See, e.g., Comments of Vulcan Wireless LLC at 40; Comments of U.S. Cellular Corp. at 18.

⁴⁸ See Comments of MetroPCS Communications, Inc. at 13.

⁴⁹ Notice of Proposed Rulemaking ¶ 32.

⁵⁰ See Comments of T-Mobile USA, Inc. at 19; Comments of Vulcan Wireless LLC at 37.

⁵¹ See Comments of Research in Motion Corp. at 7-8 (“There are minimal changes on the network side needed for interoperability as the base station equipment is in any case individually tailored for its licensed operating channel and subject to the conditions of its individual deployment location for antenna and power levels. The network interfaces are standardized and independent of the operating channel.”).

⁵² Comments of Vulcan Wireless LLC at 38.

Although Qualcomm maintains that devices under development would “be strand[ed] in the pipeline,”⁵³ the requisite tweaks to hardware for devices currently under manufacture are minimal.⁵⁴ Qualcomm also assumes that an interoperability mandate would require all new devices to support both Band 12 *and* Band 17 chipsets—thus taking up two ports and limiting manufacturer choice—which leads it to estimate significant and costly delays.⁵⁵ But because Band Class 12 *includes* Band Class 17, and Band Class 12 is already an approved Band Class, only slight modifications need to be made to existing chipsets to render them Band Class 12 compatible.⁵⁶ Switching to Band Class 12 does not add an “additional band”⁵⁷ because there will be no need for handsets to have both 12 and 17.⁵⁸ Incorrectly assuming the opposite is central to manufacturers’ arguments, and their estimates are accordingly overstated.

If the Commission mandates Lower 700 MHz Band interoperability, “whatever theoretical or actual costs there are in designing, developing, and testing” new hardware and software “would be outweighed in the mid- and long-term by reduced manufacturing costs due to an immediate increase in the number of potential purchasers.”⁵⁹ More importantly, the short-term costs would be outweighed in terms of long-term *consumer* benefit. Interoperability would instantly create meaningful competition in the wireless marketplace—a marketplace currently marked by a distinct lack of it. Consumers would have greater choice of carriers and—at least within the 700 MHz Band—an opportunity to keep their devices across providers. Underserved rural areas would see an increase in competitive options for mobile broadband. It is the

⁵³ Comments of Qualcomm Inc. at 65.

⁵⁴ Comments of Vulcan Wireless LLC at 38.

⁵⁵ Comments of Qualcomm Inc. at 66.

⁵⁶ Comments of Vulcan Wireless LLC at 38-39.

⁵⁷ Comments of Research in Motion Corp. at 9.

⁵⁸ See Comments of T-Mobile USA, Inc. at 20; Comments of Vulcan Wireless LLC at 39.

⁵⁹ Comments of Rural Telecom. Grp., Inc. at 7.

Commission's role to ensure that these public interest benefits are weighed against the short-term costs to industry actors.

B. Opponents of Interoperability Mischaracterize the 2008 3GPP Standard-Setting Process that Created the Current Segregated Band Class Environment

AT&T further contends that an interoperability mandate would have harmful systemic effects throughout the industry. Specifically, it argues that Commission action would create “enormous public interest harms” by “severely and irreparably undermin[ing] the predictability of [the 3GPP] standard-setting process.”⁶⁰ These claims rest on a faulty premise: that the standard-setting process that produced Band Class 17 was impartial and fair. To the contrary, while Band Class 12 was introduced prior to Auction 73, Band Class 17 was introduced and approved *after* the Auction but before A Block bidders even began exploring their build-out options.⁶¹ AT&T's arguments completely ignore its own instrumental, bad-faith role in creating its own “reliance interests” that it now seeks to protect.

AT&T argues that a Commission interoperability mandate would “countermand 3GPP standards by second-guessing the 3GPP's engineering judgments years after a standard has been implemented in the marketplace.”⁶² But the record in this proceeding amply demonstrates that it was AT&T's engineering judgments, not 3GPP's, that created Band Class 17.⁶³ “[A]t the time of the 3GPP deliberations on Band Class 17, the small Lower A Block licensees were still awaiting license grants from the FCC, and had not begun to research the status of LTE specifications.”⁶⁴ Absent the participation of smaller carriers and the lack of material interest of other attendees, AT&T was free to propose a U.S.-specific Band Class to shelter its own services in the B and C

⁶⁰ Comments of AT&T Services Inc. at 20-21.

⁶¹ Comments of Vulcan Wireless LLC at 3-4.

⁶² Comments of AT&T Services Inc. at 23.

⁶³ See Comments of Vulcan Wireless LLC at 7-8.

⁶⁴ *Id.* at 9.

Blocks. It did so with “conclusory statements based on overstated and unproven assumptions” and over Ericsson’s objections that such a scheme would interfere with economies of scale and produce needless market fragmentation.⁶⁵ It was thus AT&T’s weight and influence, not 3GPP deliberation, that balkanized the lower 700 MHz band in the first place—delaying the adoption of Band Class 12 standards and “hinder[ing] the ability of Lower A Block licensees to plan and build out their networks,” putting them at a competitive disadvantage from the beginning.⁶⁶ Attempting to borrow the credibility of the 3GPP, AT&T protests that the Commission’s action to *remedy* AT&T’s own original anticompetitive conduct would countermand 3GPP’s standards. This protest rings hollow.

C. The FCC Has the Authority to Mandate Interoperability

Opponents make several legal claims about the Commission’s authority to mandate Lower 700 MHz interoperability. None holds up under scrutiny. First, the provisions cited in the NPRM provide ample authority and discretion to modify licenses and the terms of licenses. Second, interoperability would not be an “unlawful retroactive license modification” under § 309(j) because it is well within the Commission’s discretion to modify existing licenses, and in fact would serve to counteract AT&T’s conduct in carving out a proprietary Band Class.

1. Contrary to Opponents’ Claims, the Commission’s Title III Authority Authorizes an Interoperability Mandate

The Commission possesses ample authority under Section 316 to modify the terms of licenses—*any* licenses—to “promote the public interest, convenience, and necessity,”⁶⁷ and this authority clearly extends to mandating Lower 700 MHz Band interoperability. AT&T and Research in Motion do not cite, and indeed *cannot* cite, any Title III provisions that explicitly or

⁶⁵ *Id.* at 4, 8.

⁶⁶ *Id.* at 9.

⁶⁷ 47 U.S.C. § 316(a).

implicitly countermand this power to modify licenses and classes of licenses to ensure that the airwaves are used in the public interest.⁶⁸ Their arguments instead attempt to deny the relevance or enforceability of many *other* provisions of the Communications Act cited by the Commission.

Opponents wrongly claim that these other Title III provisions are either “statements of policy” that confer no authority or are otherwise inapplicable to an interoperability mandate. First, citing *Comcast Corp. v. FCC*, both AT&T and Research in Motion assert that the provisions of Section 301 cited by the NPRM are “indistinguishable” from the Title I and Section 230(b) “policy statements” the D.C. Circuit found inadequate bases for rulemaking in that case.⁶⁹ What they fail to mention is that the court there explicitly referred to Title III as a source of statutory authority in the very next breath: “[I]t is Titles II, III, and VI that do the delegating....policy statements may illuminate [the Commission’s] authority, [but] it is Title II, III, or VI” from which rulemaking must arise.⁷⁰ (Moreover, unlike Section 301, Section 230(b) is explicitly designated as “Policy.”⁷¹) Research in Motion argues in addition that Section 301 “pertains to the *transmission* of communications, and does not confer authority on the FCC to regulate the choice and array of radios in a device used to receive those communications.”⁷² The devices the Commission seeks to regulate, however, are mobile communication devices that receive *and transmit* signals, usually simultaneously.

⁶⁸ See *Cnty. Television, Inc. v. FCC*, 216 F.3d 1133, 1140 (D.C. Cir. 2000); see also *Peoples Broadcasting Co. v. United States*, 209 F.2d 286, 287 (D.C. Cir. 1953) (“The Commission has power under Section 316(a)...to modify a license without an application for the modification having been made by the licensee.”).

⁶⁹ Comments of AT&T Services Inc. at 40-41 (citing *Comcast Corp. v. FCC*, 600 F.3d 642, 652-54 (D.C. Cir. 2010)).

⁷⁰ *Comcast Corp. v. FCC*, 600 F.3d at 654.

⁷¹ 47 U.S.C. § 230.

⁷² Comments of Research in Motion Corp. at 16.

AT&T concedes that Sections 304, 307, and 309 confer the power to condition licenses and impose requirements “consistent with the public interest, convenience, and necessity.”⁷³ Citing no authority, however, it insists that these sections only apply to conditions imposed before licenses are granted. But, again, Section 316 grants the Commission broad authority to modify existing licenses to “promote the public interest, convenience, and necessity,”⁷⁴ and these Sections must be read “in conjunction” with that authority.⁷⁵ Nor would interoperability “‘fundamental[ly] change’ the nature of the service that a licensee is authorized to provide,” as AT&T alleges.⁷⁶

AT&T and Research in Motion further advocate a restrictive reading of Sections 302(a), 303(e), and 303(f), which they claim “confer[] authority on the FCC to impose regulations on transmission from devices or stations in order to *decrease* the potential for interference.”⁷⁷ Each section, however, can be read to authorize broader Commission action. Section 302(a) authorizes the Commission to prescribe regulations “governing the interference potential of devices which in their operation *are capable* of emitting radio frequency energy by radiation, conduction, or other means in sufficient degree to cause harmful interference to radio communications”⁷⁸—in other words, regulations governing devices that *can* cause harmful interference, but *need not* be so doing. Section 303(e) allows regulating “the kind of apparatus to be used *with respect to its external effects* and the purity and sharpness of the emissions from

⁷³ Comments of AT&T Services Inc. at 41, quoting NPRM ¶ 58.

⁷⁴ 47 U.S.C. § 316(a).

⁷⁵ *Cnty. Television, Inc. v. FCC*, 216 F.3d at 1140.

⁷⁶ Comments of AT&T Services Inc. at 42 (quoting *Cnty. Television, Inc. v. FCC*, 216 F.3d at 1141).

⁷⁷ Comments of AT&T Services Inc. at 41; Comments of Research in Motion Corp. at 17.

⁷⁸ 47 U.S.C. § 302(a) (emphasis added).

each station and from the apparatus therein,”⁷⁹ in deliberately broad language. Section 303(f) authorizes actions to “prevent interference between stations *and to carry out the provisions of this chapter*,”⁸⁰ again including a broad grant inviting Commission discretion. Fundamentally, though, that each provision might authorize regulation to *prevent harmful* interference does not necessarily foreclose other regulation of devices—and in fact plain statutory language supports this conclusion.

Finally, AT&T and Research in Motion take the holding of *Motion Picture Association of America, Inc. v. FCC* to heart, asserting that Section 303(r)’s broad authorization to “make such rules and regulations and prescribe such restrictions and conditions, not inconsistent with law, as may be necessary to carry out the provisions of this chapter”⁸¹ does not stand alone, requiring the agency to “otherwise have the authority to promulgate the regulation at issue.”⁸² This argument hinges on the Commission not otherwise having the authority to mandate interoperability—which, as discussed above, it plainly does.

2. Mandating Interoperability Would Not Constitute an “Unlawful Retroactive License Modification” and Would Counteract AT&T’s Prior Anticompetitive Behavior

AT&T argues that an interoperability mandate would “require [B Block licensees] to use devices that will be subject to greater interference,” thereby acting contrary to AT&T’s “clear expectations” when it bid on its licenses.⁸³ But it was A Block licensees’—and the Commission’s—reasonable expectation that Band Class 12, introduced *prior* to Auction 73, would govern the Lower 700 MHz Band spectrum. “[I]n view of 3GPP’s longstanding

⁷⁹ *Id.* § 303(e) (emphasis added).

⁸⁰ *Id.* § 303(f).

⁸¹ *Id.* § 303(r).

⁸² Comments of AT&T Services, Inc. at 42 (quoting *Motion Picture Ass’n of Am., Inc. v. FCC*, 309 F.3d 796, 806 (D.C. Cir. 2002)).

⁸³ Comments of AT&T Services, Inc. at 38.

precedent of establishing a unified band class for each wireless spectrum band, no prospective bidder could have reasonably anticipated that 3GPP would disaggregate the Lower 700 MHz band.”⁸⁴ After that auction, and without input or participation from A Block licensees, AT&T pushed for the creation of Band Class 17, walling its B and C Block spectrum holdings off from Band 12.⁸⁵ In light of AT&T’s conduct, its characterizing this proceeding as a “material change...at the behest of disgruntled auction participants that regret their own competitive bidding choices” reads like a mean joke.⁸⁶ A Block bidders reasonably expected their holdings and other Lower 700 MHz Band licenses all to fall within Band Class 12; it was at AT&T’s behest that they did not.

In other words, while it may be true that “successful B Block bidders were promised, and paid for, spectrum that avoids much of the A Block’s interference issues,”⁸⁷ Lower A Block bidders expected, and paid for, spectrum that would be interoperable from the beginning. Both AT&T and A Block bidders expected some probability of interference, but only AT&T undertook a bad-faith effort to reduce its (already negligible) chances. As a consequence, A Block licensees’ holdings are less valuable and less capable of supporting competitive carriage. These are the “unsettled expectations” and this is the “retroactive modification” really at issue in this proceeding. Because AT&T *created* the “reliance interests” it is now arguing that the Commission lacks the authority to contravene, its arguments on that score cannot be taken seriously. Mandating Lower 700 MHz Band interoperability restores the expectations of a unified Band 12 and preserves the potential for true competition.

⁸⁴ Comments of Vulcan Wireless LLC at 3.

⁸⁵ *See id.* at 3-4.

⁸⁶ Comments of AT&T Services Inc. at 38.

⁸⁷ *Id.* at 40.

IV. CONCLUSION

Public Interest Commenters support full 700 MHz Band interoperability because it will mean more competition, more choice, and more consumer convenience in a wireless marketplace that currently has very little of these things. Accordingly, in this proceeding we strongly urge the Commission to intervene swiftly to ensure interoperability in the Lower 700 MHz Band. Comments from smaller, rural, and greenfield operators demonstrate that the harms of the Band 12/Band 17 barrier—the first segregated Band Classes in 3GPP history, created at AT&T’s insistence—are real and substantial, and no industry solution is likely to emerge in time for many A Block bidders to remain in business. Opponents of interoperability have failed to make the technical or legal case against a mandate. It is therefore essential that the Commission act in the public interest to guarantee that meaningful competition in Lower 700 MHz Band LTE services can exist, so that consumers may reap the rewards.

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